

FRASER TIMBER SUPPLY AREA PLAN

April 1, 1985 – March 31, 1990

Prepared and recommended by:

Chilliwack and Maple Ridge Forest Districts,
Fraser T.S.A. Steering Committee and
Vancouver Forest Region

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(FIGURE 1)
FRASER T.S.A. - KEY MAP
 for : PROVINCE / REGION / T.S.A. / DISTRICTS.

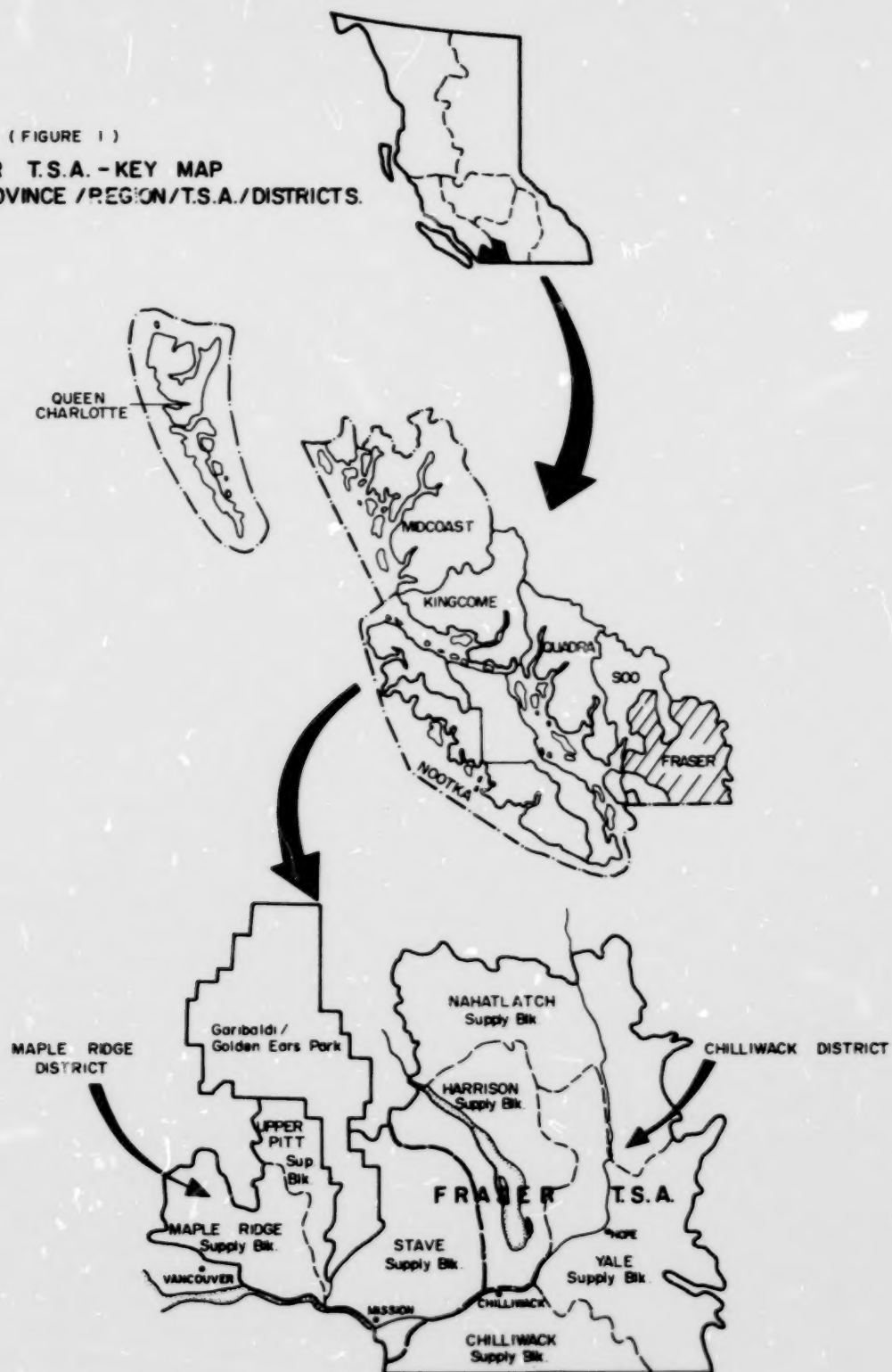




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PREFACE

The Fraser TSA Plan is a technical document intended for the use of Forest District Managers and holders of licences under the *Forest Act*. Its purpose is to serve as a guide for the administration of forest programs.

It is available to the public, but since its function is more internal to the Ministry, it is expected that the public will be seeking additional information not found in the Plan. Further details may be obtained by contacting the following offices:

Regional Manager,
Vancouver Forest Region,
Ministry of Forests and Lands,
4595 Canada Way,
Burnaby, B.C.
V5G 4L9

District Manager,
Maple Ridge Forest District,
Ministry of Forests and Lands,
20450 Dewdney Trunk Road,
Maple Ridge, B.C.
V2X 3E3

District Manager,
Chilliwack Forest District,
Ministry of Forests and Lands,
9850 South McGrath Road,
P. O. Box 159,
Rosedale, B.C.
V0X 1X0

SUMMARY

The Fraser Timber Supply Area (TSA) Plan outlines the five year plans for managing the forest, range, and recreation resources in the Fraser TSA for the period April 1, 1985 — March 31, 1990. It includes the following production targets:

Timber Harvesting

Allowable Annual Cut (AAC)..... 1,697,580 m³

Range

Animal Unit Months (A.U.M.) of Forage..... 650 A.U.M.s

Recreation

Forest Service Facilities..... 38,000 Satisfactory User Day Opportunities

In selecting these targets, the Ministry has considered factors such as the available land base, the quality and location of the resource, the needs of the users, available technology, current budgets and anticipated losses of the resource to fire and pests. The Ministry has also considered the objectives of other resource agencies, including those for wildlife habitat, fisheries habitat, watersheds, energy and minerals etc.

The Net Land Base for the TSA Plan is described in Table 1.

The key management strategies upon which this plan is based are shown in Table 2. These strategies will be monitored against actual performance and documented in the TSA Annual Report.

Table 1 Net Land Base Summary

Area Charges			Remaining Land Base		
Additions For:	Reduction For:	Area (ha)	Classification	Area (ha)	Area % of Total TSA Area)
			Total TSA area	1 168 000	100
	Non-Crown land	- 227 900	Total forest land	940 100	80
	Non-forest land	- 420 800	Crown forest land	519 300	44
	Non-stocked areas	- 20 300			
	Unclassified roads, trails and landings	- 1 000			
	ESAs	- 7 700			
	Critical deer winter range	- 11 500			
	Low Site	- 14 400			
	Deciduous forest types	- 19 700			
	Other non-merchantable forest types	- 102 600	Net Land Base	342 100	29
Non-stocked area re-stocking		+ 14 200			
Decid. rehab		+ 16 900			
Timber Licence Reversion		+ 12 600	Net Land Base (year 20)	385 800	33

Table 2 Summary of TSA Management Strategies

Timber Utilization

Mature Stands — 25 cm Diameter Stump Height (DSH) except Lodgepole pine and forest types with 15% or more stems under 25 cm DSH. Stands in the latter two categories utilization will be to 20 cm DSH.

Second Growth Stands — 20 cm DSH

Minimum Cutting Age — 121 years.

Basic Silviculture (5 year average)

Planting 3,154,000 seedlings on.....	2900 ha/yr
Site Preparation.....	619 ha/yr
Brushing and Weeding.....	983 ha/yr

Intensive Silviculture (5 year average)

Backlog Planting.....	525 ha/yr
Site Rehabilitation.....	270 ha/yr
Juvenile Spacing.....	1940 ha/yr
Conifer Release.....	187 ha/yr
Fertilization.....	2310 ha/yr
Pruning.....	146 ha/yr
Brushing and Weeding.....	604 ha/yr

Protection (5 year average)

Unsalvaged Losses

— Fire.....	5000 m ³ /yr
— Pests.....	9000 m ³ /yr

Access Development (5 year average)

— Road Construction.....	63 km/yr
— Road Maintenance.....	404 km/yr
— Bridge Construction.....	17 bridges/yr
— Bridge Maintenance.....	18 bridges/yr

Forage (5 year average)

Grazing Permits.....	7 /yr
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Recreation

Annual maintenance.....	Sites 47	Trails 47 km
5 Year Development.....	Sites 4	Trails 134 km

1.0

INTRODUCTION

The purpose of the Fraser Timber Supply Area Plan is to set an overall direction for the management of the forest and range resources in the T.S.A. This direction is consistent with existing legislation, approved policies and procedures for the Ministry of Forests and Lands.

The Fraser T.S.A. Plan, therefore establishes the production target for the timber, range and recreation resources. It also establishes management strategies necessary to reach the production targets. The plan will also be a basis for developing and adjudicating more detailed lower level plans such as Subunit Plans, Management and Working Plans (MWP) for Forest Licences, Timber Sale Licences and Woodlot Licences, etc. The T.S.A. Plan will also serve as a vehicle for coordinating the plans and objectives of other resource agencies and for communication with the industrial sector and the general public.

The plan will be monitored to determine if the objectives are being achieved and whether the strategies and objectives continue to be valid. Monitoring will be done by technical audits or an annual review and reported in the T.S.A. Annual Report. The plan will be reviewed annually and updated every five years. The level of activity will be dependent on the funding each fiscal year.

1.1

Description of the Fraser Timber Supply Area

The Fraser Timber Supply Area is located in the southeast portion of the Vancouver Forest Region. The unit is bounded by the United States border to the South, the Strait of Georgia to the West, Falls Creek in the Fraser Canyon to the North and the West Gate of Manning Park to the East. The T.S.A. contains a total of 1,168,000 ha. Of this total, 648,000 ha are parks, recreation areas, private lands, Tree Farm Licences and non productive forest land, which are not considered in the land base. There is 520,000 ha of productive Crown forest land in the T.S.A. which was decreased to a net of 342,100 ha for various reasons (See Table 1).

The T.S.A. is traversed by major highways such as the Trans Canada, Southern Trans Provincial, Coquihalla and the Lougheed as well as a substantial network of secondary highways and logging roads. There are four main centres of population being, Mission, Maple Ridge, Chilliwack and Hope and several smaller communities within the T.S.A. which are greatly dependant upon the forest economy of the unit. The metropolitan Vancouver area which is adjacent to the west boundary of the T.S.A. has a major impact on the economics and recreational use of the T.S.A.

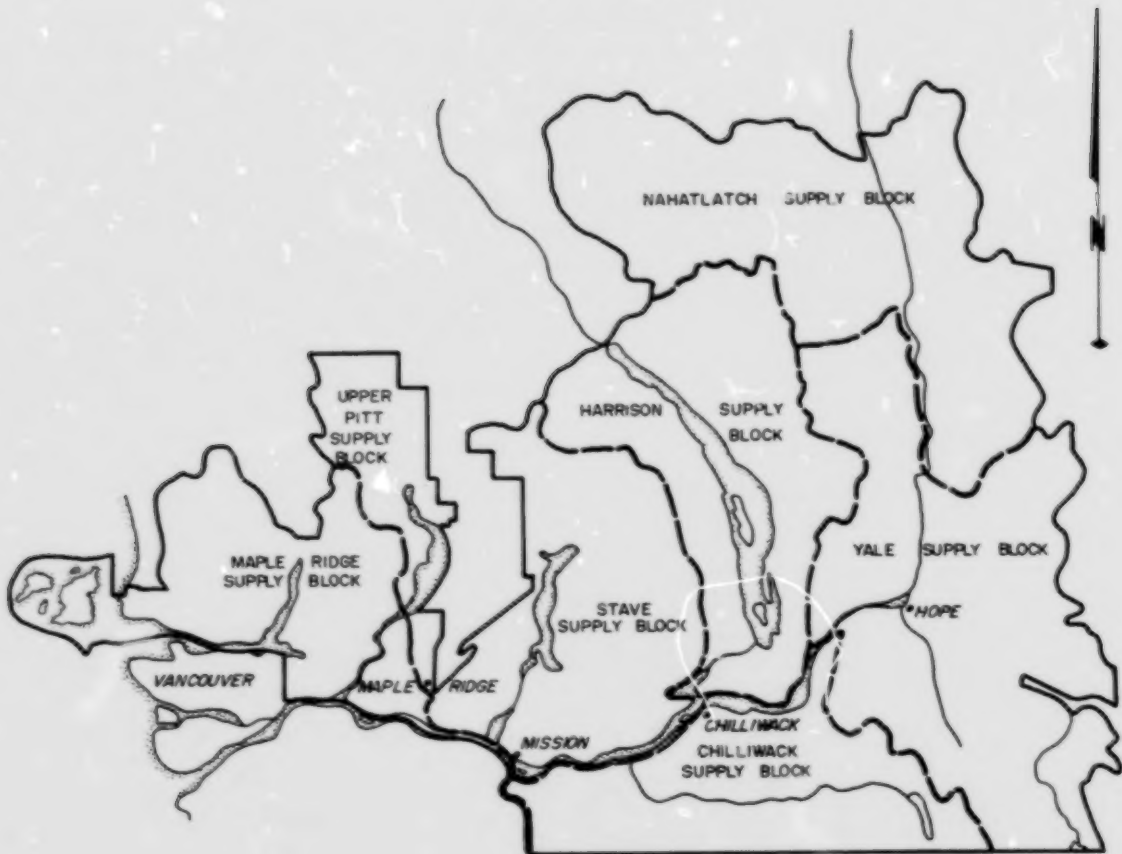
The Fraser T.S.A. is subdivided into seven Supply Blocks to provide flexibility in the administration and planning of the T.S.A. The seven supply blocks are the Chilliwack, Yale, Harrison, Stave, Maple Ridge, Upper Pitt and Nahatlatch. The T.S.A. is administered from two Forest District Offices, one at Rosedale near Chilliwack and the other at Maple Ridge.

The topography of the T.S.A. is dominated by the Fraser Valley and the western slopes of the Coastal and Cascade Mountains. This variation in the topography from flat valley bottoms to steep mountain slopes has a definite effect on the economics of harvesting, the aesthetics of all forest activity, and the recreational values of the area.

(FIGURE 2)

FRASER T.S.A.

KEY MAP FOR : T.S.A./ SUPPLY BLOCK



2.0 PRODUCTION TARGETS

2.1 Timber Harvesting

The timber harvesting production target is shown in Figure 3. The production target for the quantity of timber harvested is, 1,697,580 m³/year for the next 40 years, at which time it falls to 1,400,000 m³/year by the 6th decade, before rising to 1,660,000 m³/year by the 8th decade and maintaining that level for the remainder of the 200 year look-ahead period. The timber harvested consists of clear cut volumes except for small amounts of commercial thinning volumes. The production target in Figure 3 is based on a Timber Supply Analysis (Fraser TSA Timber Supply Analysis Report, December 1984) of Option #3 (Fraser TSA Options Report, February 1985).

The timber harvesting production target in the plan will:

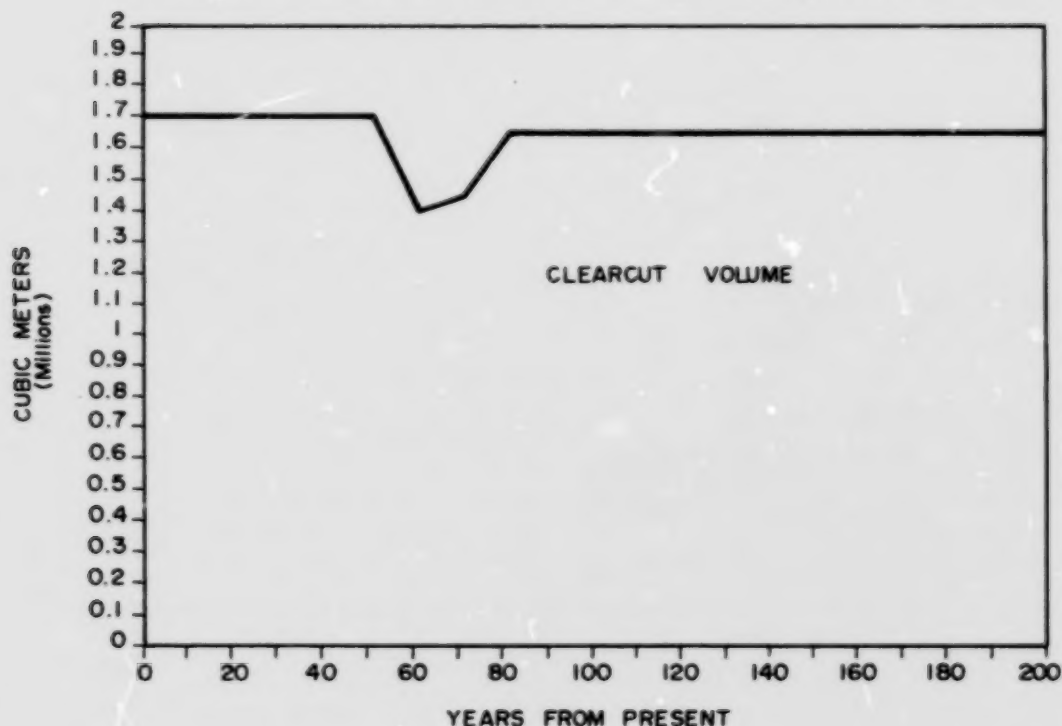
- Concentrate the harvesting in the overmature component of the forest inventory.

- Address the current timber needs of the forest industry by furnishing a continuous supply of woodfibre to maintain or enhance employment, community stability, and a reasonable level of revenue to the Crown.

- Be divided between the two Forest Districts in a manner that is compatible with the supply and demand in each district.

(FIGURE 3)

TIMBER HARVESTING PRODUCTION TARGET (QUANTITY)



2.1.1 Allowable Annual Cut and Apportionment

The A.A.C. for the Fraser T.S.A. is 1,688,190 cubic metres per year, effective from April 1, 1985 to March 31, 1990. It is committed as shown in the following Tables 3 and 4:

Table 3

Approved A.A.C.	1,688,190 m ³	100.0%
Forest Licences	1,419,800 m ³	84.1%
Major Timber Sale Licences	37,520 m ³	2.2%
Small Business Enterprise Program	223,260 m ³	13.2%
Woodlot Licence Program	17,000 m ³	1.0%
Total Commitment	1,697,580 m ³	100.5%

Table 4

Established Licensees and associated A.A.C. Commitment

Forest Licences

Licenses	Approved A.A.C. in m ³
British Columbia Forest Products Limited	559 030
Canadian Forest Products Ltd.	83 910
Cattermole Timber Ltd.	193 550
CIP Inc.	48 710
Herman Log Sales Ltd., Skagit Logging Ltd., & Moon Logging Ltd.	63 250
Prettys' Timber Co. Ltd.	202 910
Tamihia Logging Co. Ltd.	26 340
Whonnock Industries Limited	242 100
Total	1 419 800

Timber Sale Licences (Major)

Licensee	Approved A.A.C. in m ³
Allison Pass Sawmills Ltd.	1 570
W. Barber	210
Estate of W.A. Bell	130
C. Chung	340
V. Jackson	210
Joe Johnstone Ltd.	2 720
McMahon Lumber Co. Ltd.	19 540
E.R. Probyn Ltd.	3 790
R. Schellenberg	300
Scott Paper Ltd.	1 920
V & P Cedar Products Ltd.	210
Whonnock Industries Limited, Allison Pass Sawmills Ltd.	6 580
Total	37 520

2.2 Forage Harvesting

The forage harvesting production target for the next 20 years for domestic stock is 650 AUMs (animal unit months) per year, which accommodates historic demand levels for forage.

2.3 Recreation

The recreation opportunity production target for the next 20 years for categories of recreational experience are:

primitive	4 800 SUDOs per year
semi primitive	238 800 SUDOs per year
roaded/resource	1 300 000 SUDOs per year
Forest Service facilities	38 000 SUDOs per year

These production targets are based on a recreational analysis of the Fraser T.S.A. A SUDO is a Satisfactory User Day Opportunity, a statistical measurement used in Recreational Analysis.

Impact on the recreation resource of the TSA indicates that until 1990 the recreation production targets will satisfy the demand for all the opportunities, except the Forest Service facilities. An increase of facilities during the life of this plan is needed to even partially meet the demand. Lack of knowledge as to what the actual demand is, for non-facility use, precludes forecasting beyond this point.

3.0 PROVISIONS FOR OTHER AGENCIES OBJECTIVES

The Fraser T.S.A. Plan establishes provisions for the management objectives of other agencies. This includes carrying out integrated resource management in accordance with Sec.4c of the *Ministry of Forests Act* and pursuing the overall objective of maintaining and enhancing the Crown forest resources for the present and future benefit of all users.

The current plan provides for other agency objectives by reducing, or netting down the total T.S.A. area to a net land base which is considered to determine the timber harvesting production target. This net land base is 342 100 ha or 66% of the productive Crown land.

Ministry of Environment and Parks (Parks Branch)

The plan recognizes areas which have been established, through the Provincial Forest Program as parks, ecological reserves and recreational areas. No provisions have been made in this plan for further deletions of the land base for these uses. Further deletions may result in a decrease in the A.A.C.

Ministry of Environment and Parks (Wildlife Section)

The plan recognizes some areas of mature forest as deer habitat and defers harvesting over the short term of 11 500 hectares (within the productive forest land use) identified by the Ministry of Environment as critical deer winter range. Harvesting in these areas will be carried out over the long term as currently immature forests become suitable deer winter range. Other wildlife objectives are provided for in the Resource Development planning process.

Ministry of Environment and Parks (Fisheries Section)

The plan recognizes fish habitat and provides protection for fish bearing streams by a net down in land base of 2% in the Timber Supply Analysis and through consideration in the Resource Development planning process.

Ministry of Environment and Parks (Water Management Branch)

The plan recognizes and provides for Water Management Branch objectives through the planning direction to the Resource Development planning process and Local Resource Use Plans.

Ministry of Agriculture and Fisheries

The plan excludes timber harvesting in areas which are currently developed for agricultural use.

Ministry of Municipal Affairs

The objectives of this Ministry, Regional Districts and Municipal Councils are addressed at the Resource Development planning level.

Federal Department of Fisheries and Oceans

See Ministry of Environment and Parks (Fisheries Section)

Ministry of Tourism, Recreation and Culture (Heritage Conservation Branch)

These objectives are addressed by the flagging of sensitive areas for consideration at the Resource Development planning level

4.0 MANAGEMENT STRATEGIES

The T.S.A. Plan establishes the management strategies, based on a twenty year projection. The strategies are statements of actions which have been selected to meet the production targets set forth in Sections 2.0 and 3.0.

4.1 Timber Harvesting

To authorize the harvesting of timber in accordance with:

The *Ministry of Forests Act*, the *Forest Act* and regulations, pertinent policies and procedures and the A.A.C. apportionment.

To manage the harvesting of timber through periodic review and updating of Management and Working Plans, Resource Development Plans, Small Business Enterprise and Program Development Plans and Logging Plans.

To measure and scale all timber harvested in accordance with the *Forest Act* and regulations, and pertinent policies and procedures.

To prepare Local Resource Use Plans on drainages or areas where definite conflicts with other resources are identified.

To maintain maps showing the geographic location of 20 years of harvestable timber.

The division of the A.A.C. between Forest Districts will be 355,540 m³ to Maple Ridge and 1,342,040 m³ to Chilliwack unless timber supply and demand dictates otherwise.

To maintain the Forest Inventory by continual updating of history maps and records and an annual updating of 96 Interactive Graphics Design System (I.G.D.S.) maps. The Growth and Yield plot installations will be protected and will be remeasured as required.

Additional growth and yield plots will be established in managed stands to provide updated information for future yield analysis. Satellite imagery and the Geomap System will be fully utilized for map updating of land surface disturbances.

To set minimum harvesting age at 121 years for coniferous stands except for:

1. Salvage of fire or pest damaged stands or windthrown timber.
2. Site rehabilitation or stand conversion
3. Necessary winter logging.
4. Non recoverable losses i.e. R/W clearing etc.
5. Other extraordinary circumstances as approved by the Forest Service.

To encourage the harvesting of old growth and decadent stands first through the approval process of development plans, logging plans etc.

The utilization of mature stands will be to the following standards:

Lodgepole pine forest types to a 20 cm Diameter Stump Height (DSH) limit; forest types with 15% or more stems under 25 cm DSH, to a 20 cm DSH limit and all other forest types to a 25 cm DSH to coastal close utilization standards. Where the end product appraisal system is used, utilization will be to Interior Close Utilization Standards.

The utilization of second growth stands will be to the following standards:

All coniferous forest types to a 20 cm DSH and coastal close utilization standards.

Note: 20cm DSH = 17.5cm DBH (Diameter Breast Height)
25cm DSH = 22.5cm DBH

4.1.1 Timber Administration

To administer the harvesting of firewood and other special forest products by:

Administration of commercial interests through the Timber Sale Licence procedure (locating and advertising, if necessary)

Free Use Permit areas for cutting of firewood will be provided to the general public. These areas will be located in non commercial deciduous stands, logging residue, or dead timber.

To monitor harvesting operations by field inspections of active operations to the following minimum standards:

Forest Licences and Timber Sale Licences Major.

- One inspection during falling;
- One inspection during yarding;
- One inspection post logging.

Timber Sale Licence Minor and other tenures one inspection every 2 months.

4.1.2 Access Development

The harvesting of the timber resource, protection and administration of the T.S.A. renewal of the forest crop and the full use of the recreational resource is dependent on a good and well maintained forest road network. To ensure the T.S.A. is adequately served by forest roads the following strategies will be followed:

1. To develop and maintain an overall access plan for the T.S.A.
2. To acquire rights of way, plan, construct and maintain or close Forest Service roads in accordance with Ministry of Forests and Lands Policies, and Procedures, and the integrated resource management requirements of this T.S.A. plan.
3. To carry out the required road and bridge construction and maintenance according to the approved Vancouver Forest Region Engineering Specifications.
4. To survey and acquire rights-of-way as necessary to access and administer the timber resource shown in the 20 Year Timber Harvesting Plan.
5. To ensure that Crown access is maintained to all necessary foreshore and water handling areas in the T.S.A.
6. To ensure that road access is maintained to enable the protection, recreation, inventory and silviculture activities required, can be carried out.

4.1.3 Crop Renewal

The Silviculture Program for crop renewal is divided into Basic and Intensive Silviculture. Basic Silviculture maintains the natural productivity of the forest land base. It includes the planting and tending of plantations on denuded lands to the free growing stage.

Intensive Silviculture is any activity which would enhance the productivity of the forest land base. These treatments could include juvenile spacing, fertilization, conifer release, site rehabilitation, stand conversion, pruning and backlog reforestation.

The management strategies for the Basic Silviculture Program are:

1. A 5 year Basic Silviculture Plan (reviewed annually) will be maintained to set the direction and determine the funds necessary to ensure the basic program objectives are met.
2. All areas to be harvested will have a Pre-harvest Silviculture Assessment completed before cutting is authorized. This assessment will be used to generate sowing requests, schedule site preparation, brushing and weeding and to provide input into harvesting and post harvesting prescriptions.
3. Cones for the supply of tree seed for reforestation will be collected as dictated by cone crop and seed requirements.
4. Areas denuded will be reforested as determined by the Pre-harvest Silviculture Assessment.
5. Planting priorities will be set as follows:
 1. Highly productive sites.
 2. Environmentally sensitive areas.
 3. Other areas scheduled for planting.
6. Plantation maintenance will be undertaken in the most cost effective method, considering the protection of other forest resources and the environment. All plantations and naturally regenerated areas, will be maintained to prevent loss due to encroachment of brush or deciduous species.

7. The Ministry of Forests and Lands History of Crop Establishment and Stand Tending will be kept on all denuded areas and areas treated under the basic program.
8. A free growing assessment will be done on all reforested areas as determined by the Pre-harvest Silviculture Assessment.
9. A progressive survey program to assess and catalogue all areas in the T.S.A. that need basic silviculture treatment will be carried out. A minimum of 8,700 hectares will be surveyed each year.
10. No silviculture treatment will be carried out on any area unless a survey and prescription of the area is completed to Ministry Standards.
11. All silviculture treatment activities will be monitored by Ministry staff to ensure proper procedures are being used and that all contract conditions are complied with.

4.1.4 Crop Enhancement

The management strategies for Intensive Silviculture are:

1. Intensive Silviculture activity priority will be determined by the best silviculture return for the money spent and funding sources available.
2. Site rehabilitation, where required, will be conducted on the most productive sites.
3. A progressive survey program to assess and catalogue all areas in the T.S.A. which require intensive silviculture treatment will be carried out. A minimum of 7,500 hectares will be surveyed each year.
4. Plantation maintenance and conifer release projects will be undertaken by the most cost effective method considering the protection of the other forest values and the environment.
5. Pruning will be considered only where an improvement in the value of the harvested product will produce a suitable return on costs.
6. A 5 year program plan for Intensive Silviculture (reviewed annually) will be maintained to ensure the direction of the program and assist in determining the funding required to meet the management strategies of the T.S.A. Plan.
7. The Ministry of Forests and Lands History of Crop Establishment and Stand Tending will be kept on all areas treated under the intensive program.
8. No silviculture treatment will be carried out on any area unless a survey and prescription of the area is completed to Ministry Standards.
9. All silviculture treatment activities will be monitored by Ministry staff to ensure proper procedures are being used and that all contract conditions are complied with.

4.1.5 Crop Protection

To maintain the approved Annual Allowable Cut and planned forest recreation use, the forest resources must be protected from fire, insects and disease. The goal is to limit the losses from these natural causes to an acceptable level.

The T.S.A. goals will be to limit non-recoverable forest losses in accessible merchantable and immature timber types included in the A.A.C. calculations to:

Fire Losses

Merchantable timber.....	5000 m ³ /yr
Immature and plantation.....	10 ha/yr

Insect and Disease Losses

Merchantable timber.....	9000 m ³ /yr
--------------------------	-------------------------

4.1.5.1 Fire Management Strategies

4.1.5.1.1 Presuppression

The Chilliwack & Maple Ridge Forest Districts will establish and maintain fire forecasting and fire management systems which will include the following elements:

- (1) A Fire Management Plan for the T.S.A.
- (2) Duty Rosters that will include Fire Bosses and Finance & Administration personnel.
- (3) Four T.S.A. Overhead Teams that incorporate industrial personnel.
- (4) A roster of trained fire fighters capable of fulfilling key roles in the line, equipment, air operations and finance and administration functions.
- (5) A detailed pre-organization plan that details available resources in the T.S.A.
- (6) A fire contingency plan in the event of either a major fire or multiple fire starts.
- (7) In the case of multiple fires or project fires, an expanded organization chart for each Forest District that includes names of candidates and position description.
- (8) Forest licensee pre-organization plans.
- (9) Implementation of the Fireline Certification and Training Policies for both Forest Service and industry personnel.

4.1.5.1.2 Prevention

- (1) Class 'A' Burning Permits will be required 12 months a year and will be pre-inspected April 15, to October 15.
- (2) All industrial operations will be in compliance of the Forest Fire Prevention Regulations by April 15 of each year.
- (3) Supplement the Provincial Public Information and Education Program by:
 - providing periodic news releases;
 - making presentations to schools and service clubs;
 - maintaining signs in key locations;
 - enforcing the campfire regulations through ground patrols.
- (4) Implement travel and campfire restriction orders during periods of severe fire danger.

- (5) Develop and publicize with industry support a 'good housekeeping' program to reduce fire hazards.
- (6) Complete comprehensive Fuel Management Plans and/or guidelines for the T.S.A.
- (7) Encourage participation in the T.S.A. Fire Prevention, Fire Preparedness Program by all major resource users in the T.S.A. by expanding the T.S.A. Protection Sub Committee to include non licensees such as contractors, mines, railways, municipalities, native indian bands, etc.
- (8) Develop and maintain a weather station network that provides adequate coverage of the T.S.A. for:
 - regulating industrial operations;
 - forecasting fire preparedness levels

4.1.5.1.3 Detection

- (1) Increase public awareness of the Zenith 5555 Fire Reporting System.
- (2) Maintain the Lightning Location System to determine location, severity and timing of lightning activity.
- (3) Initiate air patrols in accordance with:
 - lightning activity;
 - high risk areas;
 - Danger Class.
- (4) Organize and initiate comprehensive ground patrols consistent with the prevailing Fire Danger and Risk.

4.1.5.1.4 Suppression

- (1) Carry out fire suppression activities in accordance with an approved Fire Management Plan and pertinent Ministry of Forests and Lands Policies and Procedures.
- (2) Maintain the objective of achieving control of all wildfires by 10:00 A.M. of the day following discovery.
- (3) Maintain Initial Attack crews consistent with the Danger Rating and situated at strategic locations throughout the T.S.A.
- (4) Protection Agreements will be fostered with municipalities, regional districts, provincial parks and native indian bands.
- (5) Control and mop-up crews will be pre-organized and trained.
- (6) Priority will be given to initial attack action with a policy of overkill in the initial stages.
- (7) Fires in the T.S.A. will be prioritized for action as follows:
 - (a) Forest Lands
 - life threatening;
 - endangering improvements;
 - community watersheds;
 - stands of high commercial value;
 - plantations and managed stands;
 - stands of high recreational value;
 - other stands.

(b) Non Forest Lands

- communities or residential properties;
- recreation areas.

(8) Develop Uncontrolled Fire Attack Plans (UFAP) on all fires uncontrolled after 24 hours.

4.1.5.2 Pest Management Strategies

1. To implement pest control programs to prevent widespread pest infestations and limit unsalvageable timber losses to 9,000 m³/year.
2. To maintain an ongoing insect and disease detection program in the T.S.A. by:
 - annual aerial detection survey;
 - ground surveys of areas where stands show evidence of insect or disease attack.
3. To prevent pest losses by implementing appropriate harvesting and sanitizing treatments.
4. To identify and set priorities for pest problem areas that require control action.
5. To conduct pest control activities in the most cost effective method considering the impact on other forest resources and the environment.
6. To maintain an ongoing Pest Management Training program for Ministry and forest industrial personnel.

4.2 Forage Harvesting

4.2.1 Range Administration

The use of forest land within the T.S.A. for grazing, though limited, has a historic significance. There are several small ranchers who have historically depended on wild forage to supplement their own grazing pasture. The management strategies for Range Administration are to maintain the present level of range use to 650 animal unit months (AUMs) per year.

4.2.2 Rangeland Maintenance and Enhancement

No maintenance or enhancement is necessary to meet the production target at this time.

4.3 Recreation Resource

The primary purpose of the Forest Recreation Program is to ensure that recreation opportunities exist on lands under the Ministry's jurisdiction, according to the principles of integrated forest management. The program will only supply facilities and opportunities which complement but not compete with those supplied by the Parks Branch of the Ministry of Environment and Parks and the commercial sector.

To meet the target goals the following management strategies will be used:

1. To provide and maintain recreation facilities to ministry standards at a minimum of 37 recreation sites and maintain a minimum of 57 km of managed trails.
2. To carry out recreational and landscape management activities in accordance with pertinent Ministry of Forest and Lands policies and procedures.

3. To protect recreational and landscape values through application of the integrated resource management principles.
4. A 5 Year Recreational Program Plan will be completed and maintained to ensure the direction of the program and help establish the funding required to carry out the program.
5. The demand for facilities and trails currently exceeds supply. Additional facilities will be made available subject to funding for construction and maintenance.

4.4

Resource Information

The Fraser T.S.A. Plan has set forth decisions and directions based on the best current information. These decisions and directions include the A.A.C. decision, the established harvesting priorities and the identified program needs and opportunities.

Notwithstanding the need and potential for improvement in all information, specific information shortcomings have been identified. These represent the major information shortcomings which could undermine the T.S.A. decisions and direction. If these shortcomings are not rectified during the term of the current plan they can be expected to confound subsequent revisions to the plan.

Overcoming the information shortcomings identified in this section is the current plans' strategy for collecting resource information.

Specific resource information needs which were identified in the current plan are:

Finance & Administration

1. A comprehensive method to determine the complete annual revenue for the T.S.A. is needed. This will require computer program changes in the Ministry's Financial Management Information Services and Scale and Royalty accounting system to isolate and calculate revenues by T.S.A., tenure and District.

Timber Harvesting

1. An updated forest inventory with consideration for accessibility, economics and current harvesting technology.
2. Improved Managed Stand Yield Tables for both silviculture and pest management treatments.
3. Improve the inventory data bases used to assess forest inventory by the addition of cruise plot data.
4. Improved pest management data on the impact of insects and disease on the timber supply in the T.S.A.

Range

1. Further range information is not required at this time.

Recreation

1. A recreation/landscape resource inventory which is current to at least 1986.
2. Development of public demand figures for various types of recreational use available within the T.S.A.
3. Completion of recreational mapping to show existing and potential recreation sites, trails, historic routes, special interest areas and other recreational opportunities.

4.5 Program Goals

4.5.1 Timber Administration: Program Goals

Forest Licences and Timber Sale Licences Major

1986		1987		1988		1989		1990	
VOL m ³	CPs*	VOL m ³	CPs	VOL m ³	CPs	VOL m ³	CPs	VOL m ³	CPs
1,457,320	21	1,457,320	21	1,457,320	21	1,457,320	21	1,457,320	21

* Average number of Cutting Permits issued annually.

Small Business Enterprise Program

1986		1987		1988		1989		1990	
VOL m ³	TSLs*	VOL m ³	TSLs	VOL m ³	TSLs	VOL m ³	TSLs	VOL m ³	TSLs
223,260	44	223,260	30	223,260	29	223,260	30	223,260	30

* Number of TSLs proposed on 5 year plan.

Woodlot Licences

1986		1987		1988		1989		1990	
VOL m ³	LIC*	VOL m ³	LIC	VOL m ³	LIC	VOL m ³	LIC	VOL m ³	LIC
2,900	2	11,940	8	15,500	11	17,000	12	17,000	12

* Estimated number of Licences to be issued.

4.5.1.1

Minimum Field Inspections Req'd (average/year est.)

FLs & TSL MAJ.	1986		1987		1988		1989		1990	
	CPs*	INSP.	CPs	INSP.	CPs	INSP.	CPs	INSP.	CPs	INSP.
	136	408	136	408	136	408	136	408	136	408

TSLs & WL CPs	1986		1987		1988		1989		1990	
	TSLs**	INSP.	TSLs	INSP.	TSLs	INSP.	TSLs	INSP.	TSLs	INSP.
	122	732	109	654	106	636	108	648	105	630

* Average Active CPs

** Average Active TSL Minor

Other Tenures Active on Annual Basis (Average)

SFP TSL	Special Forest Products TSL's (Minor)	87
& other	Timber Licence C.P.s	25
Tenures	Cash Sales	172
	Road Permits	17
	Licences to Cut	30
	Free Use Permits	1920
	Timber Marks	235
	Letters of Marking Authority	572

4.5.2 Access Development: Program Goals

	1985		1987		1988		1989		1990	
	Km Road	Bridges	Km Road	Bridges	Km Road	Bridges	Km Road	Bridges	Km Road	Bridges
Road Construction										
Ministry	0	2	37	0	18	9	11	8	12	8
Section 88	6	4	30	2	14	6	16	8	14	7
S.B.E.P.	45	8	41	9	30	7	19	4	21	4
Total	51	14	108	11	62	22	46	20	47	19
Road Maintenance										
Ministry	110	12	477	20	477	20	477	20	477	20

4.5.3 Crop Renewal: Program Goals

Activity	1986		1987		1988		1989		1990	
	K	Ha	K	Ha	K	Ha	K	Ha	K	Ha
Planting	3191	3205	3952	3202	3188	2710	2710	2708	2731	2722
Site Prep Burn		648		389		361		335		284
Site Prep Chem.		260		120		156		161		120
Site Prep Mech.		55		55		50		50		50
Brush & Weed H&S		20		30		25		0		0
Brush & Weed Aerial		712		944		707		630		570
Brush & Weed Grd.										
Foliar		30		50		110		100		100
Brush & Weed Manual		144		96		214		208		224
Regen Survey		3146		3017		3004		2686		2796
Survival Survey		1818		1805		2248		2312		1858
Free Growing Survey		6000		440		463		3400		3660

4.5.4 Crop Enhancement: Program Goals

Activity	1986		1987		1988		1989		1990	
	K	Ha	K	Ha	K	Ha	K	Ha	K	Ha
Backlog Planting	322	319	920	956	466	464	455	479	435	455
Site Rehabilitation		224		309		280		280		250
Regen Surveys		226		0		125		100		100
Survival Surveys		0		12		226		74		125
Stand Tending Surveys		3250		1900		1500		1500		1500
Brush & Weed Aerial		400		350		350		350		350
Brush & Weed Grd. Foliar		20		20		20		20		20
Brush & Weed Manual		186		201		240		247		247
Juvenile Spacing		1260		1870		2148		2175		2240
Conifer Release		150		250		235		150		150
Fertilization		600		2000		2650		3200		3100
Pruning		30		100		200		200		200
Commercial Thinning		0		0		0		0		0

4.5.5 Crop Protection: Program Goals

Fire Management

	1986	1987	1988	1989	1990
Unsalvageable Timber Losses m ³	5,000	5,000	5,000	5,000	5,000
Immature Losses (Ha).....	10	10	10	10	10

Pest Management

	1986	1987	1988	1989	1990
Unsalvageable Timber Losses m ³	9,000	9,000	9,000	9,000	9,000

Pest Management: Program Goals

	1986	1987	1988	1989	1990
Surveys Aerial.....	475,000 ha	475,000 ha	475,000 ha	475,000 ha	475,000 ha
Surveys Grnd. (Includes drive thrus).....	24,000 ha	24,000 ha	24,000 ha	24,000 ha	24,000 ha
Training Industry.....	20 persons	20 persons	20 persons	20 persons	20 persons
Training Ministry.....	30 persons	30 persons	30 persons	30 persons	30 persons

4.5.6 Forage Harvesting Production Goals

Grazing Permits Issues

1986	1987	1988	1989	1990
7	7	7	7	7

4.5.7 Recreation: Program Goals

	1986	1987	1988	1989	1990
Site Construction.....	1	5	7	4	4
Sites Maintained.....	38	42	49	52	56
Trail Construction.....	0 km	11 km	40 km	41 km	141 km
Trails Maintained.....	57 km	68 km	108 km	149 km	290 km
Resource Referrals.....	74	74	74	74	74
Landscape Inv.....	10 maps	10 maps	10 maps	10 maps	10 maps
Inventory Update.....	31 maps	31 maps	31 maps	31 maps	31 maps
ROS Inv. Update.....	31 maps	31 maps	31 maps	31 maps	31 maps
5 Yr. Plan Update.....	2	2	2	2	2
Landscape Analysis.....	1	2	1	0	1

5.0 PLANNING DIRECTIONS

The Fraser T.S.A. Plan establishes the following planning direction:

5.1 Supply Block Plans

These plans are a comprehensive review of the supply block, its harvesting potential and specific consideration of the effect of harvesting on the other resources and public concerns in the area. The Supply Block Plan will be made up after deliberation of the concerns by a group or taskforce made up of representatives of the Forest Service and other interested groups. The Supply Block Plans will be done as priority and need dictates.

5.2 Local Resource Use Plans

The Fraser T.S.A. Plan gives direction to Local Resource Use planning by identifying areas which are expected to be sensitive to resource development. Specific areas which are identified are:

- Norrish Creek Drainage
- Liumchen Creek Drainage
- Elk, Dunville & Nevin Creek Watersheds.

5.3 Forest Licence Management and Working Plans

The following Forest Licensees have submitted M & W Plans for their licences and these will be reviewed and assessed on the basis of conformity to management strategies in this plan, guidelines for M & W plan preparation, and pertinent Local Resource Use Plans.

Licensee	FL #	Date of Approved Plan	Review Date
1) British Columbia Forest Products Limited.	A19201	March 22, 1984	1987
2) Canadian Forest Products Ltd.	A19208	March 22, 1984	1987
3) Cattermole Timber Ltd.	A19202	March 22, 1984	1987
4) Herman Log Sales Ltd., Skagit Logging Ltd., & Moon Logging Ltd.	A19204	March 22, 1984	1987
5) CIP Inc.	A19205	March 28, 1984	1987
6) Prettys' Timber Co. Ltd.	A19207	March 28, 1984	1987
7) Tarnihi Logging Co. Ltd.	A20542	March 28, 1984	1987
8) Whonnock Industries Limited	A19203	March 28, 1984	1987

5.4 Small Business Enterprise Program and Woodlot Licence Program

The plan for the Small Business Enterprise Program will identify areas designated for harvest in the next 5 years and the necessary access development required to harvest these areas. It will be updated annually and conform to the pertinent guidelines and consideration of any other agency concerns or local resource use plans that are identified.

The requirements of the Small Business Enterprise Section dictates a need for a range of timber sales from small to large. The S.B.E.P. 5 year and 20 year plans will make provision for a range of timber sale sizes designed to satisfy the maximum number of S.B.E.P. registrants in keeping with the natural and economic limitations that prevail.

The Woodlot licence program Management and Working Plans will be assessed and approved on the conformity to an acceptable format, the T.S.A. plan management strategies, and guidelines for protection of other resources.

5.5 Forest Licence 5 Year Resource Development Plans

These plans, submitted by the licensees and updated annually, will show specific areas to be harvested in the 5 year period and the necessary access required to harvest that timber. The plan will also show proposed reforestation and current logging history. These plans will be consistent with the TSA Plan and conform to pertinent guidelines and consideration of any other agency concerns or local resource use plans that are identified.

5.6 Fire Suppression Preorganization Plans

Preorganization Plans are prepared by both District Managers for their respective districts and by the Forest Licence licensees. Actions to be taken in event of a fire are spelled out and the key personnel needed for fire fighting or as contacts with industry or other agencies are shown.

These plans are updated annually before the April 15 start of the fire season. Licensees updated plans are submitted to the District Managers.

5.7 Public Involvement and Other Agency Involvement

Public and other agency involvement in the Ministry planning process provides for the viewing and commenting on:

T.S.A. Plan including:

- Identification of management issues and public concerns;
- Timber supply, range and recreation analysis;
- Draft T.S.A. planning options;
- Supply Block Plans.

Local Resource Use Plans including:

- Coordinated Resource Management Plans;
- Community Watershed Plans;
- Crown Settlement Plans;
- Landscape Management Plans;
- Sub Unit Plans.

Resource Development Plans

- Forest Licence Management & Working Plans;
- Timber Harvesting Plans.

6.0 PLAN IMPLEMENTATION

Implementation of the Fraser T.S.A. Plan is the final responsibility of the District Managers of the Maple Ridge and Chilliwack Forest Districts. They will use the plan in developing District Programs, Management Plans, adjudicating and approving lower level plans, and as a guide for ongoing operational decision making.

The T.S.A. Steering Committee, made up of representatives of major Licensees and Small Business Program operators, give advice and make recommendations

to assist the District Managers in the administration of the T.S.A., and to make recommendations to the Regional Manager

Implementation of management direction set forth in the plan is contingent on funding of the program assumptions upon which the plan is based.

7.0 PLAN MONITORING

The plan will be reviewed annually to determine if the strategies, concerns and directions are still valid.

An assessment will be made to compare actual performance and actual program to planned performance and planned program.

There will be an Annual Report prepared reporting forestry statistics suitable for compilation of the Ministry Annual Report, and reporting the annual performance of the various programs identified in the TSA Plan.

8.0 APPENDICES

8.1 Management Issues and Public Concerns

The preparation of the T.S.A. Plan identified a number of management issues and public concerns in the management of the forest resources in the T.S.A. The current plan addresses some of these issues and concerns but leaves others outstanding.

8.1.1. Issues and Concerns Addressed in the Plan

1. There is little flexibility in the Fraser T.S.A. for maintaining current rates of timber harvesting if revised social priorities regarding timber versus non-timber resource values lead to the withdrawal of further areas from the current plans Net Land Base.
2. There is little flexibility in the Fraser T.S.A. for addressing area specific timber versus non-timber resource use conflicts by relocating current harvesting operations.

3. Issue or Concern

Potential reduction in water quality as a result of timber harvesting activities in community watersheds.

Planning Direction

Integrated watershed management plans will be prepared for community watersheds prior to harvesting, or Resource Development Plans will be referred to resource agencies for comment. Special precautions will be taken in use of herbicides. Priority will be given to protect the watersheds from fire, insects and disease. Priority will also be given for reforestation.

4. Issue or Concern

Restricted public access or recreational opportunities.

Planning Direction

Public access restrictions will be minimized and managed to meet the recreation objectives.

5. Issue or Concern

Possible adverse effects of resource development on landscape values along the major highway routes and the Chilliwack Valley.

Planning Direction

Local Resource Use Plans and Resource Development Plans will be referred to resource agencies for comment. Landscape management principles will be used in access route and logging layout. Particular attention will be paid to visually sensitive areas. Priority will be given to reforestation of sensitive areas. These concerns will also be addressed in the Supply Block planning procedures.

6. Issue or Concern

Conflict between motorized and non-motorized recreational users.

Planning Direction

The recreational inventory will identify areas of conflict. Areas of non-motorized recreation will be designated.

7. Issue or Concern

Conflict between recreational traffic, logging trucks and other industrial traffic on major industrial routes.

Planning Direction

Traffic signs, stating when logging operations are active, will be posted where needed. Public will be advised to use these roads after hours of operation.

8. Issue or Concern

Obliteration of established trails by logging activities.

Planning Direction

Recreational inventory will catalogue all trails and officially recognized trails will be shown on Resource Development Plans. Licensees will be advised of all trail maintenance or rehabilitation requirements and these will be a condition of the tenure contract or permit. All harvesting plans will be reviewed by the District Recreation Resource Officer prior to approval.

9. Issue or Concern

Hazard to life and property through mass soil movement or debris avalanches.

Planning Direction

Detailed soil and terrain mapping will be completed on areas considered to be unstable, prior to harvesting approval. Where considered necessary, a public meeting will be held.

10. Issue or Concern

Public concern over use of herbicides.

Planning Direction

All requirements and regulations of the Interdepartmental Pesticide Committee will be closely adhered to wherever that committee gives a permit to use herbicides. An aggressive public information program will be pursued to advise the public on the use of herbicides and the safety precautions that are taken.

8.2 Program Opportunities

The TSA Plan's program opportunities are the opportunities to change the direction which is set forth in the current plan. The format is designed to facilitate the link between the Five Year Programming and the TSA planning processes and are expressed in two ways. Firstly, as "alternative management directions" and secondly, as "specific program opportunities".

8.2.1 Alternative Management Direction

The alternative management directions indicates two areas in which there are opportunities to increase and or enhance timber supply.

The first opportunity is through "Intensive Forest Management". Although this option could incur additional program costs it would increase the average net value of future timber crops.

The second opportunity is through the "Utilization of Inaccessible Areas". The implementation of this opportunity would also require increased program costs but would add 51,000 ha of Crown Forest lands which are currently considered to be inaccessible.

8.2.2. Specific Program Opportunities

The specific program opportunities available in this plan are within the Engineering and Planning areas of activity.

Under the Engineering program improved access of the Harrison West and Harrison East Forest Service Roads will significantly increase the benefits for logging, forest protection and recreation.

In the Planning program there is a need to address and resolve the resource information shortcomings (see Sec 4.4 — Timber Harvesting) which are identified in the current plan, and to improve current planning procedures and increase efficiency in the preparation and implementation of TSA and Local Resource Use Plans.

8.3 References

1. AAC Rational Report.
2. *Forest Act*.
3. Forest Insect and Disease Impacts in Timber Supply Areas, February 1986.
4. Fraser TSA Analysis Information Report, October 1984.
5. Fraser TSA Timber Supply Analysis Report, December 1984.
6. Fraser Timber Supply Area Options Report, February 1985.
7. *Ministry of Forests Act*.
8. Ministry of Forests Policy Manual (Volumes I, II, and III).
9. Recreation Manual.
10. Resource Planning Manual.
11. Small Business Enterprise Account Procedures, May 1985.

8.4 Glossary of Terms

- 1) *Access development*. The acquisition of right-of-way, planning construction, maintenance and closing of roads, bridges and other works to enable resource use, primarily, the extraction of timber.
- 2) *Action*. One or more projects of tasks which are carried out to meet stated goals or objectives. See required actions.
- 3) *Activity*. A category (below program and above sub-activity) within the MoF&L Financial Services Program/Estimates User Procedures Manual for which funds are allocated to meet specified output measures.
- 4) *Allowable annual cut (AAC)*. The maximum permissible rate of timber harvest for a specified area of land, in this case, the Fraser TSA.
- 5) *AAC apportionment*. The allocation by the Minister of the AAC for a TSA among timber tenures in accordance with Section 8 of the *Forest Act*.

- 6) *AAC Rationale*. A summary of the timber harvesting production target, management strategies and other assumptions upon which an AAC is based. Current AACs and AAC Rationals for TSAs and TFLs are documented in the MoF&L TSA and TFL AAC Rational Reports.
- 7) *Alternative*. See option.
- 8) *Animal Unit Month (AUM)*. The amount of forage required to sustain one 455kg cow and unweaned calf for one month.
- 9) *Annual Report*. See MoF&L Annual Report and TSA Annual Report.
- 10) *Crop enhancement*. Increasing resource productivity or yield over and above natural or otherwise unmanaged levels. For the timber resource, this includes pest management and intensive silviculture treatments. For the range resource, this includes cultural improvements to range lands. In addition, other resource yields, for example forage for wildlife or water quality, may be enhanced through integrated resource management practices. A point of confusion is that "renewing" the timber crop in accordance with MoF&L basic silviculture standards may lead to future yields above historic levels.
- 11) *Crop protection*. Protection of the resource (usually the timber growing stock) over the rotation, from crop renewal to final harvest. This includes fire suppression and pest control, and also a broader range of forest management activities, such as road access and all aspects of timber harvesting.
- 12) *Crop renewal*. The establishment of a future crop following the denudation of the existing, mature crop by harvesting or natural causes. For the timber resource, this includes the practice of basic silviculture. For the range resource, this includes the maintenance of range land productivity.
- 13) *Five Year Forest and Range Resource Program (or "Five Year Program (FYP)")*. Government direction of the scheduling of MoF&L activities and expenditures over a five year period. Government direction is given as a response to the MoF&L tabling of *FYP alternatives* and a *recommended FYP* in accordance with Section 8 of the *Ministry of Forests Act*. FYP alternatives and recommendations are developed from an evaluation of needs and opportunities by Forest Region and Branch. TSA plans and TFL M&WPs serve as a source of information for the development of these needs and opportunities. The FYP is revised annually. The FYP is sometimes referred to as the "Five Year Plan".
- 14) *Five Year Program*. (See Five Year Forest and Range Resource Program).
- 15) *Five Year Program needs*. The Five Year Program required to implement the management direction established by the current TSA plan. Needs are expressed as a goal statement, and required actions to meet that goal, for selected programs and activities.
- 16) *Five Year Program opportunities*. The opportunities to change the management direction established by the current TSA plan. Opportunities are expressed as alternative management directions or as specific management opportunities.
- 17) *Forage harvesting*. The administration, maintenance and enhancement of the Crown's range resource.
- 18) *Forage harvesting production target*. See production target.

- 19) *Forest dynamics*. Change in age class structure and sustainable levels of timber supply over one or more rotations.
- 20) *Goal*. A statement of purpose. Also aims or ends. For example, resource management goals, corporate goals of Five Year Program goals. Where purpose is identified with achieving specific outputs, then the terms goal and objective are often used synonymously.
- 21) *Integrated resource management*. Resource management practices which are predicated on the principle of integrating resource uses in order to achieve the optimum social and economic benefit to all resource users. A legislated requirement of the MoF&L as set out in Section 4c of the *Ministry of Forests Act*.
- 22) *Issue*. See management issue.
- 23) *Local Resource Use Planning (LRUP)*. The resolving of integrated resource use conflicts. The development of area-specific integrated resource management guidelines that enable planning to proceed. One of five planning levels in the Forest Planning Framework (Resource Planning Manual, Chapter 1). LRUPs include, for example, Coordinated Resource Management Plans, Community Watershed Plans, and Resource Management Plans, Community Watershed Plans, and Resource Folio Plans.
- 24) *Long run sustainable yield (LRSY)*. A measure of land base productivity for specified management assumptions. LRSY is a function of the size and productivity of the land base, the current growing stock, the length of the planning horizon and the totality of management assumptions (for example, unsalvaged losses, regeneration delays, managed stand yield tables, extended minimum cutting ages, etc.) and how they are analysed or modelled.
- 25) *Long term*. The look-ahead period over which forest dynamics is examined. A period covering more than one rotation (normally, 0-200 years). See look-ahead period and planning horizon.
- 26) *Look-ahead period*. The long planning horizon, or time frame, over which forest dynamics is examined in order to provide a basis for evaluating alternatives. See planning horizon.
- 27) *Management issue*. A known or anticipated problem or perceived opportunity which surrounds the management of timber, range, recreation and other resource values.
- 28) *Management strategy*. A game plan. In the TSA plan, the politics, priorities, and actions, and how these are orchestrated, to implement the management direction (i.e., production targets) established in the current plan.
- 29) *MoF&L Annual Report*. The report submitted to government each year in accordance with Section 10 of the Ministry of Forests Act. The MoF&L Annual Report reviews and evaluates the MoF&L's expenditures, revenues and accomplishments with respect to the Five Year Program then in effect.
- 30) *MoF&L Management System*. The system through which the MoF&L implements its legislated responsibilities. Its primary components are the Forest and Range Resource Analysis, the Five Year Program and the MoF&L Annual Report.
- 31) *Monitoring*. Review, evaluation, follow-up. The periodic reassessment of plan direction and plan assumptions, leading to plan update (minor changes) or plan revision (major changes).

- 32) *Net Land Base*. The portion of a land base which is considered to contribute to, and be available for, long term timber supply. The Net Land Base is defined for an option by reducing (or "netting down") the total (or "gross") land base in a manner consistent with the management assumptions for that option.
- 33) *Non-stocked areas*. Areas classified by the forest inventory as forest land, but not covered by acceptable species to sufficient stocking. Includes NSR (current or backlog), DSD and NC.
- 34) *Objective*. See goal.
- 35) *Option*. A set of assumptions representing a possible management direction. The term option can be used in the context of a management option, a planning option or an analysis option depending upon the nature of the assumptions defining the option. An option is usually synonymous with an "alternative" or "scenario".
- 36) *Planning*. A support to (forest) management which synthesizes data, coordinates decision-making, evaluates alternatives and translates policies into plans. Discussed in the Forest Planning Framework (Resource Planning Manual, Chapter 1).
- 37) *Planning horizon*. The time frame addressed in a plan. A planning horizon includes a look-ahead period, or long term, which is required to understand resource dynamics and provide a basis for evaluating alternatives, and a detailed period, or short term, which is needed to lay out management guidelines and provide a basis for operational decision-making.
- 38) *Production target*. A forecast of resource supply over time, based on current policies, programs and practices, and their continuation over the planning horizon. In the TSA plan, production targets are identified for timber harvesting, forage harvesting and recreation opportunity. The first five years of the timber harvesting production target is the AAC for the TSA for the term of the current TSA plan.
- 39) *Program*. A set of management directions or actions, such as the Small Business Enterprise Program. Also, government direction of the MoF&L through the Fire Year Program. Also, one of ten categories in the MoF&L Financial Services Program/Estimates User Procedures Manual, for example, the Harvesting Program. Also the various Resource Programs (such as "scaling" or "protection") which, individually, are managed by a Resource Officer and which, collectively, constitute District Program Management.
- 40) *Public concern*. Similar in nature to a management issue, but with the distinction that resource managers and the public may have different perceptions of resource management problems and opportunities. See management issue.
- 41) *Quality (of timber harvested)*. Characteristics of the timber resource, including the timber itself and circumstances surrounding its extraction, which differentiate desirability of profitability. Because of the general lack of economic parameters in the forest inventory, quality of timber harvested is usually estimated or inferred through physical stand or site characteristics. In the Fraser TSA plan, species profile, stand age, stand diameter and stand volume.
- 42) *Quality (of timber harvested)*. Round wood volume, usually as estimated by the forest inventory or yield projections to specified diameter limited and waste utilization standards and without regard for quality.

- 43) *Recreation experience*. Any personal recreational use of or in the forest or wildland environment which provides satisfaction or enjoyment. The experience may be active or passive, consumptive or non-consumptive. It may occur in primitive, semi-primitive or roaded resource lands, as defined by the Recreation Opportunity Spectrum system, or it may be facilities oriented. See Recreation Opportunity Spectrum.
- 44) *Recreation opportunity*. The opportunity for recreation experience. This includes features of interest such as mountains, rivers, lakes, trails, sites, flora, fauna, scenery and other elements of the forest or wildlife environment.
- 45) *Recreation opportunity production target*. See production target.
- 46) *Recreation Opportunity Spectrum*. A continuum of combinations or mixes of recreation experiences. Also, the following continuum or "spectrum" as used by the US Forest Service: Primitive/Semi-primitive Non-roaded/Semi-primitive roaded/Roaded natural/Rural/Urban.
- 47) *Regeneration delay*. The number of years between the denudation of the forest stand by harvesting or natural causes and the establishment of the next crop.
- 48) *Regional Priorities*. Broad, often non-quantitative resource management goals, objectives, priorities or procedures established by a Forest Region. One of five planning levels in the Forest Planning Framework (Resource Planning Manual, Chapter 1).
- 49) *Required actions*. One or more actions which must be carried out to meet stated program or activity goals and, through the achievement of those goals, implement the management direction established in the current TSA plan. In general, required actions are patterned after activities, sub-activities or sub-sub-activities as defined in the MoF&L Financial Services Program/Estimates User Procedures Manual. See action.
- 50) *Resource Development Planning (RDP)*. The logistics for resource use development. One of five planning levels in the Forest Planning Framework (Resource Planning Manual, Chapter 1). Includes, for example, Forest Licence Management and Working Plans, Five Year Timber Development Plans, Logging Plans, and Range Unit Plans.
- 51) *Resource information*. Resource data, model forecasts, analysis results, professional judgements or user preferences. Often, the terms data and information are used synonymously. However, information must be timely and relevant for the decision problem at hand.
- 52) *Satisfactory User Day Opportunity (SUDO)*. An output measure of recreation management. It is based on hectares of land managed for a specific type of recreation experience. See recreation experience.
- 53) *Short term*. The detailed period of a TSA plan. The period over which production targets and management strategies are detailed. Normally, the next 20 years. See planning horizon.
- 54) *Species profile*. The composition of the timber harvest in terms of timber species.
- 55) *Stand age*. The age, in years, of a forest stand as determined by inventory procedures.
- 56) *Stand diameter*. The diameter breast height (dbh) of a tree of average basal area of a forest stand as determined by inventory procedures.

- 57) *Standard Operating Procedure (SOPs)*. Procedures developed to implement MoF&L policies within a Forest Region.
- 58) *Strategy*. See management strategy.
- 59) *Sub-activity*. See required actions.
- 60) *Sub-sub-activity*. See required actions.
- 61) *Supply Block*. A subdivision of a TSA which is identified to facilitate TSA planning and timber administration. Typically, areas within a TSA which are relatively homogenous with respect to forest types, harvesting systems, or transportation routes.
- 62) *Timber administration*. The sale and disposal of timber.
- 63) *Timber harvesting*. The administration, access, renewal, protection and enhancement of the Crown's forest resources.
- 64) *Timber harvesting production target*. See production target.
- 65) *Timber Supply Area (TSA)*. An integrated resource management unit established, in accordance with Section 6 of the *Forest Act*, as a revision to and a consolidation of the former Public Sustained Yield Units. The TSA is the land unit with respect to which TSA planning is carried out.
- 66) *TSA Annual Report*. The report submitted to the Regional Manager each year in accordance with the Resource Planning Manual. The TSA Annual Report reviews and evaluates TSA plan direction and plan assumptions in relation to current issues, and actual accomplishments.
- 67) *TSA Plan*. The forest management plan developed for a TSA. The TSA plan establishes the overall direction of the management of the forest and range resources under MoF&L jurisdiction in a TSA. This management direction includes the specification of production targets, provisions for other agency objectives, management strategies, directions to lower level plans and Five Year Program needs and opportunities.
- 68) *TSA planning process*. Forest management planning as carried out for TSAs in accordance with Chapter 3 of the Resource Planning Manual.
- 69) *TSA Steering Committee*. An advisory body made up of representatives of the major licensees and the Small Business Enterprise Program operators.
- 70) *Twenty-year supplies of Crown timber*. Designation, for planning purposes, of the geographical location of the supply of Crown timber over the 20 year planning horizon of the TSA plan. Such areas (25 year supplies in the case of the Fraser TSA plan) are shown on a map accompanying a TSA plan document. Because the location of the timber harvest is the major determinant of access development, crop renewal, crop protection and crop enhancement Five Year Program requirements, and expected integrated resource use conflicts, its designation is an essential component of a TSA plan. Because of changing conditions and the MoF&L's volume based tenure system, these designations are subject to review along with the TSA plan. These designations may be largely a matter of licensee preference, or their determination may be the crux of the development of a TSA plan. Normally, these designations conform to or are developed from "planning areas", "interest areas", "chart areas", "operating areas" or other such formal or informal designations.

- 71) *Unsalvaged losses*. The volume of timber killed (annually over a specified Net Land Base) by natural causes and not harvested. Unsalvaged losses include the volume of timber actually killed plus any residual stand volumes rendered non-merchantable.
- 72) *User day (UD)*. A day or part of day spent by one person in the forest or wildland environment in pursuit of recreation experience. See recreation experience.

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